

**REMARKS**

Upon entry of this amendment, claims 1-16 are pending in this application. Of those, claims 1-10 and 13-14 have been withdrawn by the Examiner pursuant to a Restriction Requirement mailed on May 4, 2005.

Upon entry of this amendment, Applicants amend claim 11 to include the word “mean” and add new claims 15-16. Support for the addition of the word “mean” to claim 11 such that the claim includes the phrase “having different mean grain sizes” can be found in Example 1, which includes an example of two kinds of SiC particles with different mean grain sizes. Support for new claims 15-16 can also be found in claims 11-12 and in Example 1, which describes SiC particles with a mean grain size of 100 microns and SiC particles with a mean grain size of 8 microns, respectively. No new matter is added.

The amendment to claim 11 to add the word “mean” is not a new issue for consideration, as it merely clarifies the language already present in the claim. Specifically, it merely clarifies that the two kinds of SiC particles have different mean grain sizes, which would be apparent to one of ordinary skill in the art in the context of the specification as filed, including Example 1, which provides an example of the combination of two kinds of SiC particles with a mean grain size of 100 microns and 8 microns, respectively.

Claims 11 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Girrens et al (U.S. Pat. No. 6,154,364) in view of Jackson et al (U.S. Pat. No. 5,006,417) and Yamagata et al (U.S. Pat. No. 6,507,105). Applicants respectfully traverse.

Girrens discloses a heat spreader made of iron-nickel alloy available under the tradename INVAR® (col. 3, lines 25-28). Girrens fails to disclose a heat spreader which is

formed of a low expansion material including two or more kinds of SiC particles having different mean grain sizes and an Al material, as required by amended claim 11. In addition, Girrens fails to disclose two or more kinds of SiC particles having different grain sizes, wherein the two or more kinds of SiC particles comprise SiC particles with a mean grain size of 100 microns and SiC particles with a mean grain size of 8 microns as required by new claim 15.

Jackson fails to remedy the deficiencies of Girrens. Jackson discloses a ternary metal matrix composite comprising an aluminum alloy matrix and a reinforcement material of silicon carbide and silicon (col. 2, lines 43-45). Jackson, however, like Girrens, also fails to disclose a heat spreader which is formed of a low expansion material including two or more kinds of SiC particles having different mean grain sizes and an Al material. In addition, Jackson fails to disclose two or more kinds of SiC particles having different grain sizes, wherein the two or more kinds of SiC particles comprise SiC particles with a mean grain size of 100 microns and SiC particles with a mean grain size of 8 microns as required by new claim 15.

The Office Action acknowledges that Jackson does not disclose the grain sizes of the SiC particles (see Office Action, page 4, line 5), but argues that “it is known in the art that the SiC powders used for such compositions are either classified by a statistical mean of their grain sizes or completely random relevant to their grain sizes” (Office Action, page 4, lines 6-8). The Office Action states that both of the above situations satisfy the limitation of “two or more kinds of SiC particles having different grain sizes” according to claim 11. In support of the argument, the Office Action cites Yamagata, which discloses SiC powder with a mean grain size of 50 microns (col. 12, lines 55-68), as an example of particles having different grain sizes such that their mean grain size is 50 microns.

Applicants respectfully traverse on the basis that the Examiner's position is contrary to the accepted standards in the art. Specifically, according to the standards in the art, Yamagata teaches **one** kind of SiC particle having a mean grain size of 50 microns (col. 12, lines 55-68). Yamagata does not teach **two or more kinds** of SiC particles having different mean grain sizes.

As acknowledged in the Office Action, SiC powders used for such compositions are classified by a statistical mean. Since, according to the Examiner, it is known in the art to classify SiC powders by a statistical mean, it is improper for the Examiner to deliberately interpret the claims in a manner contrary to the art, i.e. to ignore the statistical mean which the art uses to classify SiC powders. In other words, one of ordinary skill in the art would have understood claim 11 to refer to different mean grain sizes when referring to two or more kinds of SiC particles. In order to advance prosecution, Applicants have amended claim 11 to include the word "mean" to clarify that which one of ordinary skill in the art would have understood.

Although there is a description of mean grain sizes of 25 microns and 50 microns in Yamagata (col. 12, ln. 57-61), 25 microns is the size of the aluminum powder and 50 microns is the size of the SiC powder. One of ordinary skill in the art would understand that Yamagata's teaching of SiC particles with a mean grain size of 50 microns is a teaching of **one kind** of SiC particle. As a result, Yamagata does not meet the limitation of "two or more kinds of SiC particles having different mean grain sizes" as required by claim 11.

In addition, Yamagata fails to disclose two or more kinds of SiC particles having different mean grain sizes, wherein the two or more kinds of SiC particles comprise SiC particles with a mean grain size of 100 microns and SiC particles with a mean grain size of 8 microns as required by new claim 15.

Accordingly, for at least the foregoing reasons, Applicants respectfully submit that claims 11-12 and 15-16 are patentable over the combination of Girrens, Jackson, and Yamagata, and thus, respectfully request that the rejection be withdrawn.

### **CONCLUSION**

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejections and allowance of this application.

### **AUTHORIZATION**

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. 5000-5118. A DUPLICATE OF THIS SHEET IS ATTACHED.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. 5000-5118. A DUPLICATE OF THIS SHEET IS ATTACHED.

Respectfully submitted,  
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Dated: May 2, 2006

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